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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,411	06/20/2007	Herbert Steghafner	27392/30000	3265
4743 7590 01/15/2008 MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606			EXAMINER DINH, TRINH VO	
			ART UNIT 2821	PAPER NUMBER
			MAIL DATE 01/15/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,411

Applicant(s)

STEGHAFNER, HERBERT

Examiner

Trinh Vo Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 04/26/2006
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Drawing

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3-7 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, “the respectively electrically-active antenna” has no antecedent basis. In addition, it is unclear what a word “their” in the phrase “their optimized interconnection” refers to.

Claims 4-7 are rejected because they depend on claim 3.

In claim 5, “the intermittent impedance elements”, and “the base point” have no antecedent basis. In addition, it is unclear what “printed-conductor portions...are a shorter length with increasing distance from the base point”.

In claim 14, “the individual received transmission signals” in line 4, and “the passive antenna region” in line 5 have no antecedent basis. In addition, it is unclear what claimed language of “crossover network” means. For a purpose of examination, the claimed language is the best understood as “a mixer”.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by

Lindenmeier (US 6,917,340 of record).

Respecting claim 1, Lindenmeier discloses an antenna system (in Figs. 5-6) of broad bandwidth comprising a plurality of active, vertical individual antennas (14, 15 in Figs. 5-6) with an electrically-active antenna height adapted to the respective received frequency range (col. 6 lines 11-26) wherein the mutual electromagnetic coupling between the individual antennas which are positioned at a small spacing distance, is minimized (col. 4 line 44 to col. 5 line 4).

Respecting claim 2, Lindenmeier inherently discloses the claimed subject matters since the claimed parameters that are optimized are taken into consideration in any antenna design, especially since Lindenmeier defined minimization of the coupling as an aim.

Respecting claims 3-4, 6 Lindenmeier discloses, in Fig. 6, the respective electrically-active antenna height is optimized by an optimized arrangement of several impedance elements in the respective individual antennas and their optimized interconnection, and the optimized arrangement of the impedance elements relative to one another takes place both within one individual antenna and also between the individual antennas. Further, Lindenmeier discloses the interconnection of the impedance elements provides impedance in the case of low received frequencies, and provides high impedance in the case of high received frequencies (col. 5 lines 30-45).

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3. Claims 1-2, 8, 10, 12-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Ericsson Inc. (WO 01/71846 of record).

Respecting claim 1, Ericsson discloses an antenna system (in Figs. 2, 4) of broad bandwidth comprising a plurality of active, vertical individual antennas (214, 224) with an electrically-active antenna height adapted to the respective received frequency range wherein the mutual electromagnetic coupling between the individual antennas which are positioned at a small spacing distance, is minimized (page 1, lines 9-21).

Respecting claim 2, Ericsson inherently discloses the claimed subject matters since the claimed parameters that are optimized are taken into consideration in any antenna design, especially since Lindermeier defined minimization of the coupling as an aim.

Respecting claims 8 and 10, Ericsson discloses, in page 11, lines 26-31, the input impedance of the active base-point electronics provides a high-resistance input impedance in those of the individual antennas which are determined for the reception of low-frequency transmission signals, or the input impedance of the active base-point electronics in those of the individual antennae determined for the reception of relatively high-frequency transmission signals, is designed to be of low- resistance for low-frequency transmission signals and to be at the base-point impedance of the passive antenna region of the respective individual antenna for relatively high-frequency transmission signals.

Respecting claims 12-13 and 15, Ericsson discloses the input impedance of the active base-point electronics is additionally mismatched in a targeted manner outside the useful frequency range to the base-point impedance of the passive antenna region of the respective individual antenna. Further, Ericsson discloses the received frequency ranges of the individual

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antennae adjoin one another and form a complete received, frequency range (page 10 lines 15-16).

4. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Davidson et al (US 4,138,681) or Chiron et al (US 3,991,625).

Davidson or Chiron discloses an antenna system (Davidson: Fig. 2.; Chiron: Fig. 3) of broad bandwidth comprising a plurality of active, vertical individual antennas (Davidson: 22, 24; Chiron: 1-10) with an electrically-active antenna height adapted to the respective received frequency range wherein the mutual electromagnetic coupling between the individual antennas which are positioned at a small spacing distance, is minimized (Davidson: cols. 3-4; Chiron: Abstract). Further, Davidson or Chiron inherently discloses the claimed subject matters since the claimed parameters that are optimized are taken into consideration in any antenna design.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindenmeier or Ericsson in view of Abramo (US 5,600,335 of record).

Lindenmeier or Ericsson discloses every features of the claimed invention except RL circuit or RC circuit. Abramo discloses interconnection of the impedance elements comprising a parallel circuit including an inductance and a resistor, or a capacitor and a resistor (col. 1 lines 16-19). It would have been obvious to one having ordinary skill in the art to incorporate the

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circuit electrical circuit as taught by Abramo into the antenna structure of Lindenmeier or Ericsson since such modification is well known to maintain an acceptable VSWR with increase frequency bandwidth.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ericsson in view of Ohe et al (US 4,788,549).

Ericsson discloses substantially claimed subjected matters as discussed in claims 1, 2 and 13. However, Ericsson fairly suggests a phase matching and a crossover network. Ohe discloses phase matching networks (88A, 88B) for phase matching of the received transmission signals and a crossover network (90A, 90B) for combining the individual received, transmission signals are connected to the passive antenna regions (32, 92) for the reception of transmission signals and to the base-point electronics for the amplification and filtering (102, 104, 108) of the received transmission signals. Using phase matching networks, crossover and amplifier circuits has been a well-known practice in antenna field. Therefore, providing Ericsson's antenna system with the electrical networks as taught by Ohe would have been deemed obvious to one skill in the art because it is common.

Inquiry

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens, can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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January 06, 2008

A handwritten signature in black ink, appearing to read 'Trinh Dinh', with a long horizontal flourish extending to the right.

TRINH DINH
PRIMARY EXAMINER